COMPATIBLE ACTION GRAPH FOR FINITE CYCLIC p-GROUPS

Sahimel Azwal Sulaiman [1], Mohd Sham Mohamad [2], Yuhani Yusof [2] and Mohamad Khalid Shahood [3]

[1, 2, 3] Faculty of Industrial Sciences & Technology, Universiti Malaysia Pahang, Malaysia

ABSTRACT:

The compatible actions are important in determining the nonabelian tensor product of groups. In this paper, the finite cyclic groups of the p-power order, where p is an odd prime are considered. The purpose of the paper is to find the intersection between a group and its subgroup for such type of groups. For this goal, the compatible action graph for the finite cyclic groups of the p-power order has been defined and used to find the number of the compatible pairs of actions that have the p-power order, which represents the intersection between the compatible action graph and its subgraph. Furthermore, some properties of compatible action graph and its subgraph are given.